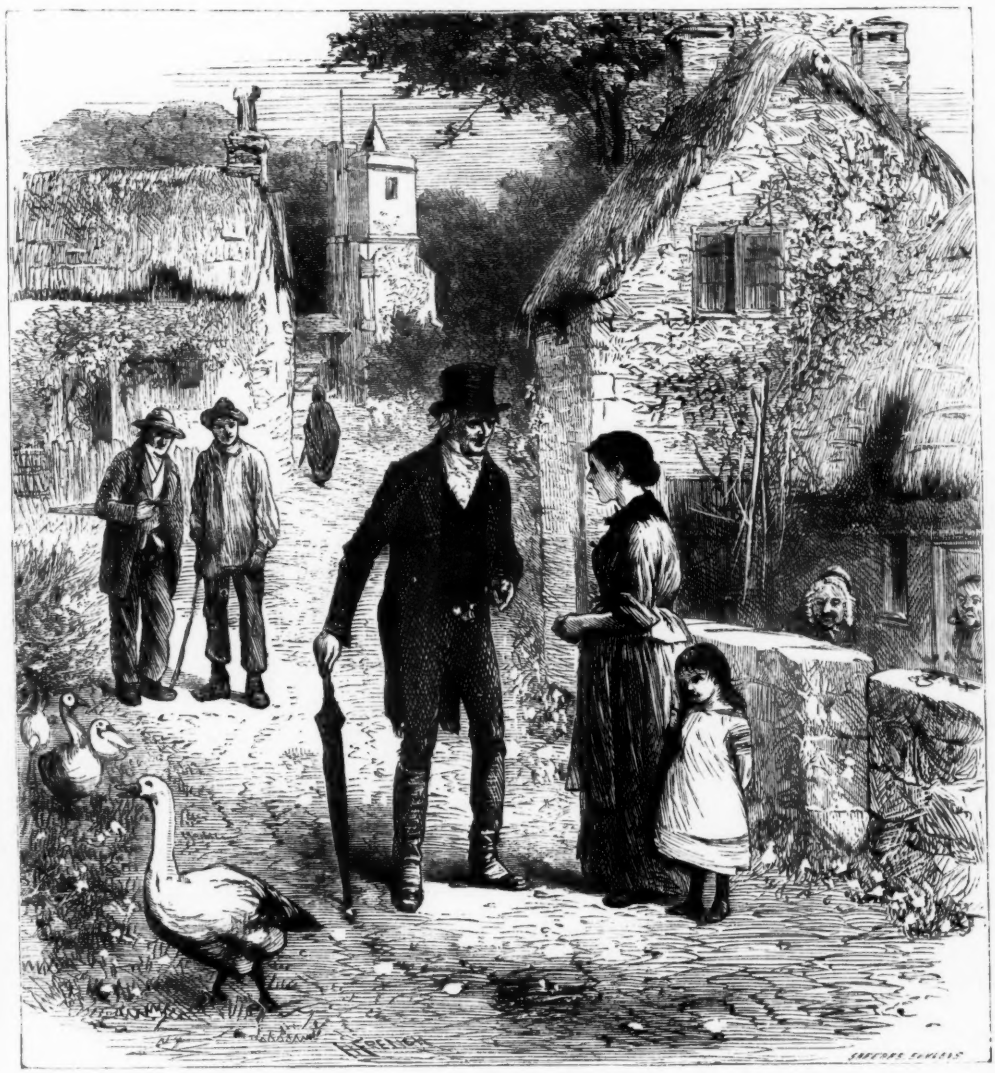
THE LEISURE HOUR.

BEHOLD IN THESE WHAT LEISURE HOURS DEMAND,
AMUSEMENT AND TRUE KNOWLEDGE HAND IN HAND.—*Cowper.*



THE TALK OF THE NEIGHBOURHOOD.

STRAIGHT TO THE MARK.

CHAPTER XXXVII.—A DIFFICULT CHOICE.

Are not the mountains, *waves*, and skies, a part
Of me and of my soul, as I of them?
Is not the love of them deep in my heart
With a pure passion? —*Byron.*

ALTHOUGH Tom Howard had manifested a great deal of feeling when first informed by Mrs. Martin of his father's death, he was not so much affected by it afterwards as might have been expected from a child of his warm and impulsive temperament. The shock had been severe; but after a few days he was able to think of the event and to reflect upon the consequences of it without a very great deal of pain. Among these consequences was the return of his mother, whom he was expecting in the course of a few days, with the prospect of not being again separated from her. He felt indeed that it must be a terrible thing for her to lose her husband, and

wondered what he could say or do to comfort her; but that he should lose his father did not affect him so deeply. It must be remembered that he had not seen that father for nearly six years; and it may be confessed that his recollections of him had not at any time been so distinct or so delightful as they might have been. Mr. Howard had never taken much notice of his little child. Business and other cares had always held the chief place in his consideration; and although he had loved his boy and had taken pleasure in seeing him sometimes, there had been no very tender passages between them. Tom could not affect greater sorrow at the loss of his parent than he really felt; and though his manner was more quiet and subdued than formerly, he would soon have recovered his spirits while looking forward to his mother's arrival, if it had not been for the anxiety he felt on her account and the keen sympathy which he entertained for her share of the affliction.

Mulberry Villa was not a very lively place at this time. Mrs. Beverley, who had come herself to the terminus to meet Tom, had given him a hint not to talk about Mr. Darville in Joan's presence; he need not ask for reasons: she told him there were reasons sufficient. Tom thought that if Darby and Joan had fallen out, he might perhaps be able to make it up between them; but Mrs. Beverley seemed to understand his thoughts and anticipated what he might have spoken. They must be left to themselves, she said in a decided tone. Nobody could interfere. Tom asked if he might go and see Mr. Darville as usual; and Mrs. Beverley could not forbid his doing so, but charged him not to speak of anything that occurred at the villa, and not to carry messages to and fro if any should be given.

Miss Beverley's habits were altered of late, as Tom very soon found out. She did not visit in her district so much as she had formerly done; nor did she accompany her parents on Sundays to the parish church which they had attended for so many years. She preferred the new district church of St. Winifred's, where the services were more frequent and more elaborate. Tom saw very little of her; often she did not appear at the breakfast-table. She was "gone to church;" it was the same at other meals. She ate but little, and that at odd times, causing a great deal of inconvenience and discomfort to other members of the household. Her father complained that he seldom saw her, for she went out in the morning before he was downstairs and did not return till he was gone, or just going to business; and in the evening also she was frequently engaged or absent. Mrs. Beverley was inclined to take her daughter's part when anything was said about her. It was the only consolation poor Joan had now, she would say. It was a good thing for her that her mind was so engaged. Church-going could never do her any harm; it would divert her mind from other thoughts and be a relief to her. So Mr. Beverley could only give vent to his dissatisfaction by his looks, and grew more serious and silent and Socratic than before.

It was no wonder that, under these circumstances, the time should seem to our hero to pass slowly. He went to church at first with Miss Beverley, but she scarcely spoke to him, either going or returning; and when he got there he was not allowed to sit near her, but sent to the opposite aisle; so he did not continue that practice. He went into the City several times with Mr. Beverley. Mr. Beverley was not very good company either, but Tom would leave him in Cheapside and go on to the East End of London, where he would spend hour after hour looking at the shipping in the docks and making acquaintance with the seamen and officers, returning in time to accompany Mr. Beverley back to Highgate, where he got through the evening with a book or with his own thoughts as best he could.

Sometimes he would go to Charing Cross terminus instead, to see the trains come in, especially that tidal train from which, as he pictured to himself, his mother would alight when a few more of these slow, tedious days should have worn themselves away. His heart leapt up in pleasing anticipation when he heard the rumbling of the train afar off, and saw it coming smoothly towards him, though he knew that she was not in it this time; and then again the thought of the sable garments by which she would be distinguished, and the load of sorrow which she must needs bring with her, damped his joy and sent him away again anxious and dejected. On the whole he much preferred the docks and the trip back by water, though only on the Thames in a penny steamer.

She came at last; came when he was not expecting her nor thinking of her. The hour was past, as he thought, when she might have been expected, and she could not come till night. He had betaken himself to a little room at the back of the house which was but seldom used, and was absorbed in a volume of "Captain Cook's Voyages" from his uncle's shelves, when the door was suddenly thrown open and his mother entered. A hungry embrace, a storm of kisses, a long eager look at the face of her son, as she held him at arm's length, and then a passionate burst of tears and sobs from mother and child at once! It was long before either of them could utter a word except in the way of ejaculation; but they grew calm at length, and smiled upon each other with a joy that needed no other expression. Smiles and tears, tears and smiles again for an hour more, no one venturing to interrupt them or even to enter the room in which their joys and sorrows were thus freely outpoured and freely mingled. Then the world began to move again, and before evening things were going on all about them in their old groove, and they themselves taking their natural part and interest in them.

It was not till the next morning, however, that Mrs. Howard, sitting with her son by her side, and his hand in hers, in the little back room where she had found him, began to talk to him about his father's death, and the consequences which it had entailed. Tom was too young to be taken wholly into confidence in respect to matters of business, but there were some points on which it was necessary that he should be informed at once, as his whole future career must be affected by them; and it was with difficulty that she could approach them.

"We have had very good reports from your school, Tom," she said. "It has given us such pleasure. You still like it, do you not?"

"Oh, yes, mother; much better than I expected I should."

"You would not like to leave it?"

"No, not just yet; when I am a little older I should like, of course, as you know, to go to sea."

"I was in hopes you would have given up that fancy, Tom."

"It is not a fancy, mother; I don't know what to call it. I always loved the sea; that voyage from

India I shall never forget; and then the trip down Channel; and afterwards the cruise in Mr. Dean's boat! Oh, mother, the sea, the sea! there's nothing like it. In fair weather or foul, calm or rough, the very smell of it, the spray upon one's forehead, the shadows flying over it, the ship driving on, the sails spread out like wings, the deck springing under one's feet, the seamen's voices ringing in the air, so different from any voice on shore! Oh, mother, the sea, the sea! what would I give to be upon the sea again this moment! But don't be distressed, mother. I am sorry I said so much. I will give it up if you like," he added, observing the sad expression of Mrs. Howard's face. "I used to think, you know, that I should sail to India and see you there."

"That is all past and done with. You would not like to go away and leave me now, Tom?"

"I would not do that—never, never!" he exclaimed, putting his arms round her neck; but with a misgiving the next instant that he was promising more than he had intended—more than he should like to fulfil. He could not unsay it, however; he must submit his will to hers, and hope that she would think differently on the subject by-and-by.

"I don't know what we shall do, Tom," Mrs. Howard said. "Our loss is great in every way. I should like you to remain at Abbotscliff as long as possible; but I have not the same means, the same income that I had."

Tom had never thought of that, but understood his mother's difficulty in a moment.

"I suppose it is awfully expensive keeping me at that tip-top school," he said.

"Yes," she replied; "and yet I should be so sorry for you to leave it. You must go back for a term or two, at all events; perhaps, by that time, we shall be able to see our way more clearly."

"Yes, mother; and if you could then make up your mind to let me go to sea, it would save all further expense and trouble. I should be quite old enough, and should begin at once to gain my own living."

"I shall not let you leave school if I can help it, Tom. It was your dear father's greatest wish that you should be properly educated; he would have made any sacrifice with that object. He meant that you should go to Cambridge or Oxford, and then to the Church or the Bar."

Tom could not feel sorry that these plans were not likely to be carried out, but he had too great a respect for his father's kindness of intention and too deep a sympathy with his mother's wishes to say anything.

"There is only one way in which your poor father's plans could be accomplished," said Mrs. Howard, "and that depends very much upon yourself, Tom. The last report speaks very favourably not only of your diligence and progress, but of your good abilities; Mr. Grantley thinks you may take a high place in the school. Now there are, as you know, house scholarships, which are sufficient to defray the greater part of the expense for those who gain them. Don't you think you might try for one?"

"I should not have a chance, mother."

"Would it not be worth while to try?"

Tom reflected. He knew tolerably well what he could do, and what others, with whom he would have to contend, were capable of, and it had never occurred to him that it would be possible for him to gain one of these chief prizes. He might try for it: it would be a tremendous grind, and if he failed, as he felt sure he should, the result would not be without some mortification.

For these reasons he did not feel inclined to go in for it. But there was another view of the question. If he should succeed—it was absurd to expect it, but accidents did happen in examinations as well as in other "well-regulated" affairs, he knew that—if he should by any fluke succeed, what would be the consequence? He would be debarred for ever following the calling of a sailor. He must in that case stick to the school, and continue to work hard, and prepare for greater efforts at the university. Success, then, would be the death-blow to his dearest hopes. He did not covet university distinctions. He wanted to be a sailor. He did not aspire to wear a gown and a wig, and to pass his days in Chancery Lane and the Law Courts. The passionate wish and instinct of his heart was to tread the deck of a fast-sailing ship, to climb the rigging, to fight her through storm and tempest; to experience, in a word, all the excitements and perils of a seaman's life. Yet his father, who was just dead, had planned and in a manner appointed this career of learning for him instead; and his mother, who was now dependent upon him for all the joy and comfort of her life, had likewise set her heart upon his following it. It seemed hard that under such circumstances the choice should lie with him; that he must resolve either to work for a success which he could not expect to attain, and which if attained would be rather in the nature of a penalty than a prize as far as he was personally concerned, or he must disappoint his mother's hopes in order to gratify his own.

He said very little at the time to his mother, but lay awake the greater part of the following night, reflecting upon these alternatives. Only a few days more of the autumn holidays remained. Two house scholarships were to be awarded at Easter in the following year. If he should resolve to work for one of them he had no time to lose. He wished there were no such things as scholarships; any other kind of "ships" would have suited him so much better. He wished this question could have been decided for him; he could have made up his mind more easily to do what was plainly ordered and appointed. He must choose and decide for himself, and yet the choice lay in fact between his own choice and his mother's choice. Already he knew what the decision must be. He had known it from the moment when the question first arose. But it was not without a struggle that he could master his own feelings and resolve, at whatever cost, to follow the path of duty. If he should fail he thought he should be so glad afterwards that he had done his best, and might probably then leave school and go to sea at once.

But that again would be a disappointment to his mother, and all the greater because she would be sure to build up extravagant hopes of his success. It would be a disappointment to himself also in one way: for of course if he made up his mind to work for the scholarship he should make up his mind to win it; he must apply himself to his duty in no half-hearted manner, but earnestly and resolutely, with no reserve of thought or wish, but "straightforward," having only one object in view and hastening towards it. If he could not command success he must at least deserve it, and that would entail a great deal of hard work, and probably in the end a serious mortification.

Wearied with these thoughts, tossing from side to side upon his pillow, the night wore on, and already the dawn began to show itself before he fell asleep. He was up in good time, however, the next morning; and when Mrs. Howard came downstairs, she found him already looking over some books which he had taken from his school-box. They exchanged glances; the boy colouring a little, and turning away his eyes from her for a moment. His resolution was taken, and she knew it; and when he felt the warm, lingering pressure of his mother's lips upon his cheek, he had already begun to reap the reward of the labour and self-denial which were to follow.

CHAPTER XXXVIII.—DOING HIS BEST.

That dry drudgery at the desk's dead wood.—*Charles Lamb.*

The holidays were over, and the boys were assembling from north, south, east, and west at Abbotscliff. Most of them came by late trains, the latest that were practicable; taking good care, however, to be punctual, and to use the proper Bradshaw. Some of them were a little out of spirits at leaving their friends, but they made the best of it, and knew by past experience that the home-sickness would soon pass away, and that they should be all right again in two or three days. Little Martin, who was obliged to leave home at an early hour, arrived at his destination in the afternoon, and went down to the station in the evening, to look out for his friend Howard, and to exchange congratulations or condolences.

"I have got a message for you," said Martin, as soon as they were together. "Guess who sent it."

"Your mother?"

"No; guess again."

"Mr. Strafford?"

"Yes; Mr. Strafford. He has got a new housekeeper, and there has been quite a row at his house. Mrs. Daunt kept saying that she would not stay—until the new one came, and then she changed her tone, and said she would not go. And she told every one Mr. Strafford had promised to marry her; and she has been to a lawyer about it; and there is to be an action, and damages, and everything."

"Nonsense!" said Tom.

"She says he promised."

"And what does he say?"

"He says he did not, and never thought of such a thing. That is what the message is about. You are not to believe anything of the kind; and not to listen to any of the tales you may have heard about him, but to think of him as a friend, and to go and see him whenever you can. He says he shall not forget you, and he hopes you will not forget him; and you are to write to him and tell him how you are getting on. We can't make out what you have done to Mr. Strafford. He is quite a different man from what he used to be. Hares, the keeper, says so; and so does Mrs. Hares, and everybody. And you remember that old cottage of Pollard's, where the rain came in upon Pollard's wife? Well, he has had the roof repaired, and everything put in order, and he sent the doctor to see her, and gave her whatever the doctor ordered; and they say he is going to lower his rents and to repair his cottages all round. And he has been to church, and has called on my father about the schools, and has given him ever so much money for people who were in want; and when he meets any one, instead of looking away from them as he used to do, he 'passes the time of day,' as the people call it. It is the talk of the neighbourhood, I can tell you. Some say it's only a freak of the moment; others that he had a 'stroke' and fell down in the yard and got frightened about himself and wants to get a way made for him to go to heaven; others think that it's the new housekeeper's doing. She is a very different woman from Mrs. Daunt—more of a lady, and keeps two or three servants; but Hares, the keeper, says it's your doing, and so does Mrs. Hares. Oh, and by-the-by, they sent a message, too, 'respect and dooty.' You are quite in favour with them all. You will have to come and see us again next holidays; my father says so."

"No," Tom answered; "I am afraid I shall not be able to do that. My mother will be at home, you know."

"At Easter, then?"

Tom sighed. "A great deal was to be done before Easter," he said. "He did not know how things might turn out."

"What sort of things?" Martin asked.

"I am going to work hard this term and next," he said; "and then we shall see."

"You always do work hard."

"Not as I mean to, though. I don't intend to lose a minute if I can help it."

"I am sorry for that; but you won't give up the field club, I hope?"

"Not altogether."

This was not a cheerful way of beginning the new term, and Martin dropped the subject. The evening was closing in, and the weather was overcast, and when they arrived at the college, and Tom found himself again in the common room, with its naked walls, its long tables, and its bare board, and the murmur of many voices in his ears, the contrast between the comfort and happiness he had lately enjoyed with his mother at Mulberry Lawn, and the hard, practical, and somewhat gloomy aspect of the scene before him, cast a chill over him, and made him feel more sad and lonely than he would have liked to confess. He had been already more than a year at the college, and was generally very happy and contented there. At his first entrance he had expected to suffer grievously from home sickness; but the novelty of everything about him, and the strong resolution he had formed not to give way to unmanly regrets, had helped to carry him through the first few days, and then he had been as merry as any of his schoolfellows, having naturally an excellent fund of good spirits. But now he could not overcome a feeling of depression; he had had such a short spell with his mother since her return, and the time had passed so quickly, and he had nothing before him but months of application to his books (for which he had never had any particular liking), and then either a discreditable failure, or if success, a success which would, in its consequences, be even more distressing and distasteful. His visits to the docks, the sight and even the smell of the shipping, and his occasional conversations with the sailors, had revived his passion for the sea, and had made him feel at the time that it would be impossible for him to follow any other calling than that of a sailor. And now he had engaged to do his utmost to disable and disqualify himself for such a profession. He was resolved to do his duty, and to make it his pleasure also, if practicable; but just now, on the day of his return to the college, he could not overcome a feeling of distress, and almost of despair, at the prospect before him; and as he paced to and fro in the dusky play-

ground, where a few boys were sauntering about in groups with their hands in their pockets, and their hearts, like his own, far away, his eyes filled with tears, of which, however, he took care that no one should know anything but himself. Rousing himself from his reverie, he drew out a book which he had been studying in the train and endeavoured to concentrate his thoughts upon it. This was the best remedy he could think of for low spirits, this the most practical and effectual method of combating all discontented thoughts and impulses. While he was thus engaged a hand was laid upon his shoulder, and dashing away the tears from his eyes, he turned and saw his old friend and tutor, Mr. Grantly.

"Bookwork already, Howard!" he said. "You are not very sorry, then, that the holidays are over, I conclude?"

Tom did not answer.

"Not sorry to return to Abbotscliff, at all events, I hope?"

Still he did not reply.

"What have you been doing during the vacation?"

Tom told him of the pleasant visit he had had at Brakely, but could not get any further just then.

"I am glad you have enjoyed yourself."

After a time Tom was able to speak of his mother, and of the loss they had both sustained; and Mr. Grantly was so kind, and sympathised so entirely with his trouble, that he was led to enter more fully than he otherwise would have done into his own plans and prospects. He wanted some one to talk to, and it was a relief to him to open his heart to Mr. Grantly.

"You give up the idea of going to sea, then?" said his tutor.

"I suppose so—for the present."

"That is right. You will find a better opening."

"I don't think so, Mr. Grantly."

"You will have other tastes and ambitions as you grow older."

"No," he said, promptly; "I shall never like anything else so well."

"Are you sure of that?"

"Quite sure. I shall try to like whatever I have to do, of course; but I think Captain Broad was right when he said I was made for the sea. The pilot said the same. 'A born sailor,' he called me."

"Well," said Mr. Grantly, "we shall see what you think and say about it a few months hence. It will do you no harm to read for this scholarship, provided you do not overdo it. I do not think you could stand so much brain work as some of our boys; you are too excitable. Those hard-headed north-country fellows will have an advantage over you. Very likely you will not persevere with it, but you can try. I confess, however, that, as a rule, I think it is a good thing that boys who have a strong leaning to any profession, and stick to it as they grow older, should be allowed to follow their choice. It is often an indication of what they are most fit for. I always thought you would be a sailor. I can hardly fancy you anything else."

"Do you think, then, that it is not advisable for me to go in for this scholarship?"

"I should be sorry to offer you any discouragement."

For one moment only Tom had felt a thrill of hope at the opinion which Mr. Grantly had expressed. He was accustomed to look up to him as an authority on most points, but especially on any subject connected with the school. It was evident, he thought, that Mr. Grantly would not advise him to attempt that close and constant study which would be necessary for him if he were to compete for the scholarship, nor yet to do violence to his nautical instincts. Why should he persevere in a course which was not suited to him? But the next instant the thought of all that had passed on the subject with his mother, and of the earnest manner in which he had himself weighed it in all its bearings, recurred to his mind; and as Mr. Grantly turned away to speak to another boy, Tom Howard opened his book again and began to read more steadily than before. He had made up his mind, not hastily, but after full consideration, to follow the path of duty, and he would not turn aside from it. He considered himself bound to persevere. He had, it was true, made no promise, but the decision at which he had arrived was a kind of pledge to himself, and that was sufficient. He would be true to himself; and all the more because everything and everybody seemed to be in league to tempt and argue him out of his fidelity.

It was a busy term for all the boys, both in school and out, but for none more so than for Tom Howard. The evenings were long and afforded good opportunity for study. The weather was often wet and gloomy, and there was but little inducement to go out. There was football on half-holidays, compulsory, but Tom was excused after the first few weeks as not being equal to violent exercise, and was allowed to go for a walk instead; though it was not intended that he should carry a Latin book with him to read as he sauntered along, or that he should stand still for half an hour at a time on the seashore drawing mathematical figures upon the sand, and comparing their angles. There was a glee club also requiring frequent practices, but Tom was not musical, and preferred Jim Bowley's song of the sea-sarpent to more finished compositions. So if he attended any of the performances or concerts he generally went to sleep, having somehow or other acquired an unpleasant habit of lying awake at night. The "naturals'" club was in abeyance at this season, but some strange specimens were added to it by the untiring zeal of the Swallow and others. Tom did not respond to the invitations he received to go in search of "objects," or to assist in arranging collections. To him the term was almost literally all work and no play; and it was no wonder that his mother and Mrs. Beverley thought him looking thin and pale when he returned to Mulberry Lawn for the Christmas holidays. He was much more sedate and much older too in every way, considering that he had been absent only about three months. He had got on well with his work, however, and was beginning almost to think that he should have a fair chance of gaining the scholarship. The idea gave him sometimes more pain than pleasure, but he endeavoured to dismiss all future consequences from his mind. "Do your duty," Captain Broad had said when he parted from him in the Channel. "Do your duty as honestly and truly as you can, and leave the rest to Providence." He remembered also the seaman's maxim which he had heard in the pilot's boat: "When you are not sartin about your course, don't run afore the wind, but beat up agen it. Why and wherefore? 'Cause it's easier always to go wrong than right; so don't choose the easiest." That was Tom Howard's rule with respect to the scholarship.

CURIOUS TIME-MEASURERS.

I.

NOT content with the natural divisions of the day and night, man must early have noted the varying lengths and turnings of the shadows of trees and rocks; but the changing seasons would make such indications of uncertain value, and as he rose from the barbaric state, he would feel the want of a more unerring record of the progress of time.

With the need ever comes the man to satisfy it, and observation prompted ingenuity to devise the earliest artificial time-measurer in the sun-dial, the first chronicled being that of King Ahaz (B.C. 742), mentioned in the Bible. The first instrument of the kind of which we have any definite description was the hemicycle of Berosus, a Chaldean astronomer, B.C. 540. But it was two centuries later before Anaximander, travelling in Chaldea, noticed the novelty and carried it to Greece. In the Elgin collection at the British Museum is a sun-dial having four faces to show the hours to passers-by, taken from one of the crossways in the city of Athens. The inscription upon it runs: "Phædrus, the son of Zoilus, a Pæonian, made this." One was set up in Rome, B.C. 293, by Papirius Cursor, a general, near the Temple of Quirinus.

The pillar dial is rarely set up now, but in the heart of busy London it is to be found adorning the quiet greensward of the Temple, facing Crown Office Row. This quaint retreat also contains several specimens of the wall sun-dial. There is one in Middle Temple Lane, with the motto, "Pereunt et Imputantur;" one in Essex Court inscribed, "Vestigia nulla Retrorsum;" and another at the back of the same court, with the motto, "Discite justitiam moniti." One in Brick Court proclaims that "Time and tide tarry for no man;" and one in Pump Court aptly points out that—

"Shadows we are, and like shadows depart."

On an old dial at the end of Inner Temple Terrace, removed in 1828, there was a peculiar and not inappropriate inscription, said to have been taken from a reply given by a testy and inattentive Bencher to the boy who had come for the motto from the dial-maker's; it was, "Begone about your business."

The "polos" was an upright staff, fixed in a basin, round the edges of which were marked the portions of the day. This, placed in a sunny spot, indicated the time by its shadow. The earliest "gnomons" (a name originally given to the dial itself, but now to the hand) were probably beams, or stones, placed in a perpendicular position, and it is even supposed that the obelisks of the Egyptians may have acted as time-indicators to the people as well as time-serving flatterers to their kings.

The sun does not always shine, but time is ever moving, so a dial could not be taken as the be-all and the end-all of the notation of time's flight. Therefore the Egyptians hit upon the happy expedient of measuring time by the flow of water. These water-clocks, or clepsydræ, must have been untrustworthy timekeepers in that the emptying of one vessel to another was much accelerated or diminished as they were full or only partly so. Nevertheless, they were an advance upon the sun-dial, being available rain or shine. The invention of clepsydræ is attributed by Vitruvius, architect to Augustus, B.C. 40, to the son of an Alexandrian barber, one Ctesibius, who lived in the reign of the second Ptolemy Euergetes, B.C. 245. This youth had evidently sharpened his wits, as well as his father's razors, and had put a keen edge on his inventive faculties; for whether the earliest idea of the clepsydra is due to him or not, it is certain that he arranged a toothed wheel, which, fitted to the apparatus, in a great measure regulated the deficiency. This primitive clock was a jar containing water, which slowly escaped by a hole in the bottom. A miniature boat floated upon the surface of the water, and as this sank an oar, projecting from the boat, pointed to the hours marked upon the inside of the jar. Plato took the idea of the water-clocks from Egypt to Greece; he constructed one himself that played upon flutes instead of striking the hours. P. Cornelius Scipio Nasica introduced one into Rome B.C. 157. Indeed, such time-measurers were greatly regarded by the Romans. In the triumph of Pompey, one of the trophies from the East was a clepsydra strung with pearls. The Greeks put them to good use by placing them in the Athenian courts of justice, to place some limits on the loquacity of the lawyers. Clepsydræ seem to have travelled pretty quickly about the world; Julius Cæsar found them in Britain B.C. 55, where they had doubtless been introduced by the Phœnicians.

The ancients frequently erected buildings for recording time. Northward of the Acropolis is the ruin of an octagonal temple called "The Tower of the Winds," from the figures of the eight winds cut in relief upon the outer walls. This is spoken of as a horologium by both Varro and Vitruvius, and may have been intended for a sun dial; it also had a clepsydra, regularly fed with water from a spring under the cave of Pan on the north-west of the Acropolis. At the Mattei Palace, Rome, is a representation in a bas-relief of a clepsydra, resembling an hour-glass in form.

The celebrated horological machine presented by Haroun-al-Raschid, in 807, to Charlemagne, was probably a water-clock. It was of bronze gilt, and twelve doors in the dial opened to show the hours, while brass balls to the number of the hour fell out and struck the time upon a bell. The doors remained open, and at noon twelve miniature knights rode forth and round the dial, having made a circuit of which, they retired, and the doors closed behind them. This unique and, for the period, amazing piece of workmanship, was sent in charge of two Jerusalem monks from the Caliph of the East to the Emperor of the West.

Soon after the introduction of water-clocks, another form of measuring time was discovered, and

Alexandria again boasts the invention, if that can be called one which is but another application of the same idea. This was the clepsammia, or sand-glass, which is more certain in its action than the clepsydra, as, under proper conditions, sand will run more uniformly than water. The sand, or hour-glass, has been greatly honoured, for, besides being borne—together with his scythe—by the bald, bent, and winged embodiment of Old Father Time, it has been the stock-in-trade of poets from time immemorial; now, alas! it has dropped to the prosaic egg-boiler, and is even made to ring a bell, to jog the memory of the cook.

Our own Alfred (great as a king and greater as a man) knew full well the advantage of an accurate knowledge of the rate at which time travels. He showed his appreciation of the value of time, and exhibited his ingenuity in the "candle-clocks," by which he divided his days. Of these candles Alfred burnt six daily; they were made of wax, twelve inches long, and burnt for four hours each, two monks being duly appointed to tend them carefully, and act as snuffers, fingers being the instruments in use for the purpose at that period. It was not always, though, that Alfred had a roof to shelter him; and sometimes the keen winds of Athelnay would blow his candles out, so the ready-witted monarch fitted thin slips of horn into frames, fixed them round his candles, and thus invented lanterns. He was a light to his people in more ways than one, was Alfred.

The date of the introduction of wheel-clocks and their inventor is uncertain. Some ascribe them to Archimedes, 200 B.C. In an epigram of Claudian, a clock is named as the work of the gifted Syracusan which represented the heavenly motions, the diurnal and annual courses of the sun, the changes and aspects of the moon, etc. Some give the credit to Boethius, A.D. 510, and others to Pacificus, Archdeacon of Verona, about the year 850, though doubt has been thrown upon these horologia being anything more than sun-dials. It is a well-authenticated fact, however, that Gerbert, of Auvergne, a monk of the order of St. Bennet, at the Abbey of St. Gerard d'Orillac, made a clock moved by weights and wheels at Magdeburg, about 996. Men with new ideas often suffer, but though Gerbert's clock-making got him an unpleasant reputation as a magician locally, he rose rapidly in the Church, becoming archbishop, in turns, of Rheims and Ravenna, and receiving the tiara as Pope Silvester the Second in 999.

What is now known as a clock was originally called a *horologe** and the term "clock"—probably from the French *cloche*, a bell—was applied, down to the fourteenth century, to the bell rung to announce the hours. In 1365 (Edward III) there was a *clochard*, or bell-tower, at Westminster. This was taken down in 1715, and "Great Tom," the small predecessor of "Big Ben," was given to St. Paul's.

Two hundred years had to elapse before the new ideas of registering time by clocks with wheels and weights took root. The earliest complete machine of the kind, in good going order, is said to have been made in the thirteenth century by a Saracen mechanic, and presented by the Sultan of Egypt to the Emperor Frederick II. About the same time wheel-clocks were manufactured in Italy, and in 1288 the first English public clock was set up at Westminster. Canterbury followed suit four years later with a clock that cost £30—a large sum at that time. In the reign of Edward I, Richard de Wallingford, the son of a blacksmith at St. Albans, constructed a clock for the abbey church, of which Leland says all Europe could not produce such another. This showed the hours, the motions of the sun, changes of the moon, and ebb and flow of tides, and was called by its maker "Albion" (*i.e.*, all by *one*). The mechanic-monk had lost his parents when he was ten years of age, and the Prior of Wallingford prepared the bright lad for Oxford. Richard wrote a large folio on astronomy, but was not simply a star-gazer, for he rose in the Church, and became Abbot of St. Albans. His account of the clock is preserved in the Bodleian Library, Oxford.

A few years after Wallingford's successful effort a curious clock was made for Glastonbury Abbey, about 1325, by Peter Lightfoot, a monk of that place. The dial shows the motions of the moon and planets, two figures strike the hour on a bell, and on the top eight armed knights keep wandering round in hopeless pursuit of each other. Lightfoot's clock continued to work until forty years ago, when it was placed in the crypt of Wells Cathedral. It was subsequently lent to the Patent Museum at South Kensington by the Dean and Chapter. A few new brass wheels have been added, to take the place of old iron ones lost, and it is now in good working order, and, what may seem anomalous, on strike also.

Dover Castle also boasted a clock with the date 1348, which was removed from Dover Castle in 1872, and is now at the Patent Museum, South Kensington. It is interesting, apart from its age, in having the verge escapement, which was in use before the pendulum. In the same Museum is an ancient clock with stone weights, from Aymestrey Church, Herefordshire.

In the year 1344 Giacomo Dondi, a Venetian, made a clock for Hubert, Prince of Carrara, which was set up at Padua. It indicated the hours, represented the motion of the sun, moon, and planets, and pointed out the different festivals of the year. For this achievement Dondi received the surname of "Horologio," which his family is said to hold to this day. Another clock, and somewhat more complex, was made about the same time, and for the same city, by William Zelander. This was afterwards repaired by the celebrated Janellus Turrianus.

The most ancient clock of which we have a complete description is that made in 1379 for the palace of Charles V of France, by Henri de Vic, or de Wyek, a German, whom the king called from his native country to make the machine. There were, indeed, few makers of clocks in those days, and consequently such articles were rare. Sometimes they excited the cupidity of conquerors, as when, in 1382, a celebrated clock was "transferred" from the city of Courtray to the tower of Notre Dame, at Dijon.

In the north tower of Exeter Cathedral is a clock said to have been presented by Bishop Courtenay in 1480. The earth is represented by a globe in the centre, the sun by a fleur-de-lis, and a ball, painted black and white and turning on its axis, shows the moon's phases. There is a turret clock at Hampton Court, in the portion erected by Wolsey, bearing the date 1541, the original dial and part of the works

* Iago says of Cassio—

"He'll watch the horologe, a double set [*i.e.*, twenty-four hours], If drink rock not his cradle."

still remaining; and there is an Italian clock of about the same period in the South Kensington Museum.

One of the most noted horological machines has ever been that of Strasburg. It replaced one twenty feet high, which was designed in 1370, and of which only the cock that surmounted it remains. The present one, in the south transept of the cathedral, was set up, in 1574, by Dasypodius and Wolkinstenius, and completed by Isaac Halbrecht towards the close of the century. There is a description of this clock by the supposed inventor, Conradus Dasypodius, professor of mathematics at Strasburg, written in 1580. Besides showing the motions of the sun, moon, etc., upon a celestial globe, it had a perpetual almanack, the day of the month being pointed out by a figure. The hour was struck upon a bell by the figure of one angel and a second reversed an hour-glass at the last stroke. The first of these angels also opened a door, and saluted a statue of the virgin behind it. The quarters of the hour were struck by statues representing the seasons of the year: Spring, a child with an apple; Summer, a youth with bow and arrows; Autumn, a man with a staff; and Winter, an old man with a crutch. Before the hour a cock flapped its wings and crowed twice. One story connected with the clock is that there was only one artificer engaged in the task, who, becoming blind before its completion, and being jealous of others interfering with the work, finished it without the assistance of his eyesight. This, if true, has been paralleled in later times, for William Kennedy, a clock-maker of Banbridge, county Down, was blind for many years while working at his trade. He lived about 1790.

The works of such ancient clocks as we have named were rude and cumbrous, and they had each a balance like the fly of a kitchen-jack. It was reserved for the seventeenth century to crown the edifice of clock mechanisms in the discovery of the pendulum, an honour fiercely contested and claimed alike for Galileo Galilei, Huygens, and Dr. Hooke; but all these aspirants to the honour of the invention must retire into the background if it be true, as stated, that one Richard Harris, of London, made the theory an accomplished fact by putting a pendulum clock into the new church of St. Paul's, Covent Garden, built by Inigo Jones in 1642; or if Tycho Brahe had one on this principle, made by Justice Bergen, mechanician to the Emperor Rudolphus from 1576 to 1612. Galileo, who was mathematician to the Grand Duke of Tuscany, is said to have first suggested the pendulum about the year 1639, but he did not apply his theory till later. The real inventor may never be known; two or three great minds were working in the same direction, and the discovery may have been almost simultaneous in each case. Whether the honour is to be awarded to one of our own countrymen or not, certain it is that they have ever since been foremost in the art. Foreign clocks have doubtless improved since the times of good Queen Bess, when Shakespeare made Biron, in "Love's Labour's Lost," utter that libel on the fair sex, who are said to be

> "Like a German clock,
> Still a repairing, ever out of frame,
> And never going aright."

Most towns had curious clocks in the seventeenth century, but they all bore so strong a family likeness to that of Strasburg and others we have noticed, we may be spared a description of them. But there are historical clocks, and some that tell sad stories, that it would be well to name. There is still preserved the identical clock which was at Whitehall at the time of the execution of Charles I, and by which the fatal moment was regulated; and her Majesty the Queen has a small clock of silver gilt at Windsor, a present from Henry VIII to Anne Boleyn in the May-time of her hopes. Clocks of eccentric performance have not been rare; instance the workmanship of a German mechanic captured by the English forces at Copenhagen, who, being brought to London as a prisoner, supported himself by making apparently self-acting time-indicators, the hands of which, being rapidly spun round, stopped at the proper hour upon the dial. Nicholas Grollier de Servière, a remarkable man, born at Lyons in 1596, made many curious and unique mechanisms. He was a soldier of fortune under Louis XIV, and, being satiated with glory, though free from scars, he had settled down to a quiet life, and instead of slaughtering the enemy he killed time by constructing peculiar clocks to register its flight. One was simply a pewter plate with the hours marked upon the rim. Water was run on to the plate, and a metal tortoise placed in it, and this gradually floated round until it stopped at the correct time. In another a ball travelled on diagonal lines down an inclined plane, touching a spring at the bottom and reversing the plate. Evelyn mentions a similar (possibly the same) piece of mechanism in his diary, February 24th, 1655, and he writes:—"I was shew'd a table-clock whose ballance was onely a chrystall ball sliding on parallel wyers without being at all fixed, but rolling from stage to stage, till falling on a spring conceal'd from sight, it was throwne up to the upmost channel againe, made with an imperceptible declivity, in this continual vicissitude of motion prettily entertaining the eye every halfe minute, and the next halfe giving progress to the hand that shew'd the houre, and giving notice by a small bell, so as in 120 halfe minutes, or periods of the bullets falling on the ejaculatory spring, the clock part struck."

A clock invented by De Grollier was brought out again as a novelty some few years back. It was a transparent dial without visible connection with mechanism. There were two pieces of glass, one behind the other, and the hand was fixed in the back piece, which turned round once every twelve hours by motion produced at a tangent, and pointed to the hours written on the front piece of glass.

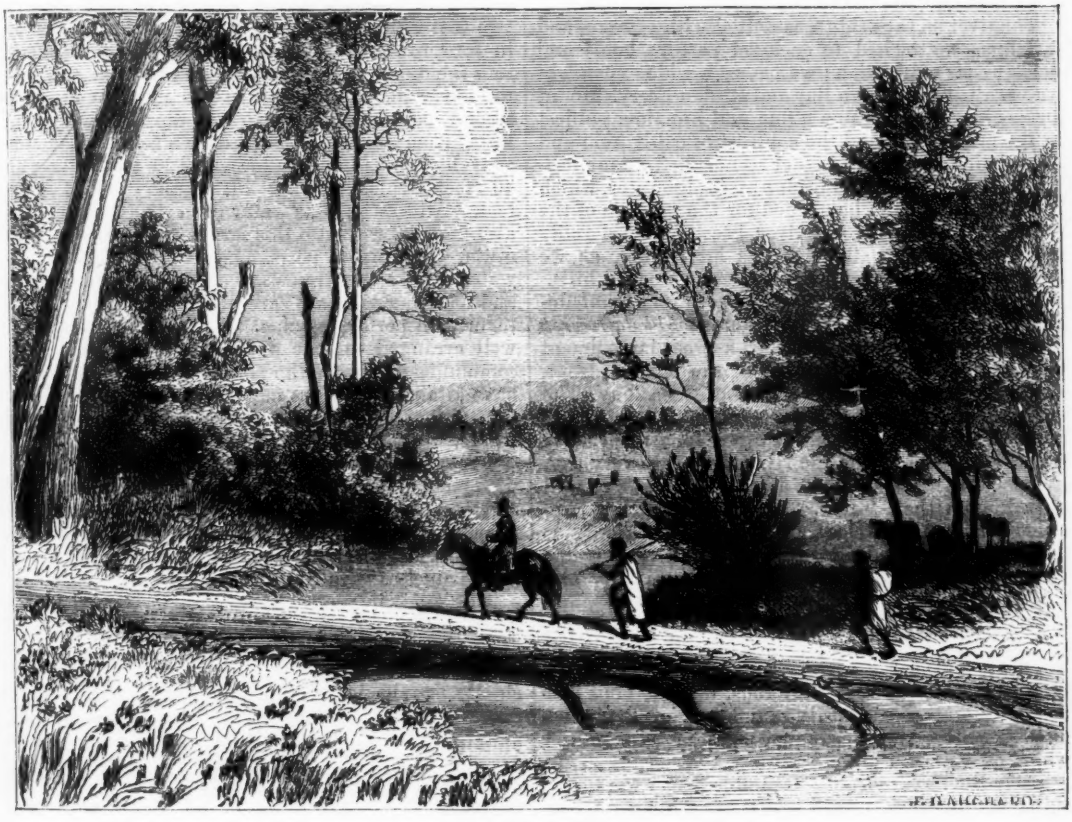
In the Patent Museum at South Kensington is the original eight-day clock, made at Barrow, Lincolnshire, by John Harrison, in 1718. Harrison was celebrated as the inventor of a nautical timepiece, or chronometer, which gained the reward of £20,000 offered by the Board of Longitude in 1767.

Louis XIII had a remarkable clock, if that which had only a case and a dial may be called by such a name. It stood in the *Cour de Marbre* of the Palace of Versailles, and was known as "the clock of the king's death." There were no works inside—no *mécanique*, as the conjurers say—but the hands silently and steadily pointed to the hour and minute of the last king's death, and were only altered when the next gave up the ghost. Even a sermon like this failed to make the French autocrats think themselves as much mortal as the poor peasants they oppressed, and of whose terrible vengeance they were ere long to be the victims.

AUSTRALIAN NOTES.

BY GEORGE BENNETT, M.D., F.L.S., AUTHOR OF "GATHERINGS OF A NATURALIST IN AUSTRALASIA."

II.—HOBART TOWN—MOUNT WELLINGTON.



EUCALYPTUS BRIDGE.

IN rambling through Hobart Town one of the first places I visited was Franklin Square, where I admired the fine bronze statue of Sir John Franklin. The base stands on a pedestal surrounded by rockwork covered with various plants more or less in bloom. This is erected in a large stone reservoir of water, in which some water-plants are growing. The square is planted with a variety of trees and shrubs, and laid out in neat walks, as a public place of recreation, and being on an elevated site the view from it of the harbour and adjacent land is very good. The market was conspicuous by a fine appearance externally, well finished, and adorned by sculptured ornaments, but at the time of my visit it was apparently used more as a storehouse for empty packing-cases than for the object for which it was erected.

On the following day I visited the Botanical Gardens of the Royal Society, situated in the Government Domain some distance from the city. On rising ground, at the entrance to the Domain, stands the High School, a building of some pretensions to architectural beauty, surrounded by a garden and shrubbery. From the more elevated parts there is a very extensive view of the city of Hobart, backed by a lofty mountain range of which Mount Wellington is the most conspicuous feature, being 4,170 feet above the level of the sea. The Government House is a handsome building on a fine site. The Botanic Gardens extend along the hillside, and slope down to the shore of the broad, bright Derwent, close to which, by the waterside, the recently constructed railway passes. They are laid out with great taste, and are kept in most excellent order. Subsequently I visited the Museum of the Royal Society. The museum was extensive and well arranged, and possessed a magnificent collection of geological specimens. There is also an extensive and well-selected library of works in every branch of natural history.

At breakfast the next morning I partook of the famous fish the trumpeter (*Latris hecateia*, Richardson); it is so called from the peculiar sound it utters

when captured, and I was informed it was caught in the greatest quantity about the vicinity of Cape Pillar. I tasted it both boiled and fried, but I think it perfection when salted and smoked, and then grilled or fried. The flounders (*Pleuronectes sp.*) were also of excellent flavour, resembling the English sole.

In the afternoon I left in the steamer for New Norfolk, for the purpose of visiting the ponds established in the vicinity of that township for hatching and introducing trout, salmon, and salmon-trout into the rivers and streams of the colony.

The river on each side was dotted with cottages and farmhouses, attached to enclosed pasture lands and fields under cultivation; we passed a wide expanse of water called New Town Bay and Risdon Ferry. Mount Dromedary also became a fine and prominent object in the landscape; and the contrast of cultivation and the primitive wildness of other scenery had a fine effect. We passed through the bridge at Bridgewater, which is so contrived as to be opened for the passage of the steamers; and then the river became considerably more narrow, but still not less interesting, as we steamed between lofty picturesque and wooded hills.

Wild ducks were occasionally seen, and that destructive bird to fish, the cormorant (*Phalacrocorax carboides*), which must have been a great impediment to the successful acclimatising of the salmon, trout, and other exotic fish in the waters of the colony. The trout is also a great enemy to salmon, devouring the ova. The cormorants were often seen upon lofty trees in the vicinity of the river, and were very shy, as they were marked out for destruction, and a reward placed upon their heads. When flying, they frequently mount in circles until nearly out of sight.

As we approached New Norfolk, the river became very narrow. On one side the land was lofty and wooded, but on the other the elevation was less, and adorned with neat villas and cottages, some with vine and rose-clad trellis and porches, but all surrounded by neat and extensive fruit and flower gardens. Hop gardens were very numerous, but the hops had been just gathered (April), and heaps of the poles now encumbered the ground. We arrived at the wharf of New Norfolk about dusk.

Early the next morning I rambled over the township, which consists principally of one long street containing small shops of various kinds. Rain had fallen slightly during the night, but the morning was clear and fine, with a cold, bracing, invigorating air. I observed a small building which I thought was a chapel, but on inquiry found it was a library. The town is surrounded in the distance by a lofty range of mountains. The scenery and climate were quite English, and the little town, or rather village, was perfectly so, both in the people and the gardens, the only exception being the great variety of geraniums seen in full bloom. Pear, plum, and medlar trees were loaded with fruit. The season had passed for the more delicate berries, such as currants and gooseberries.

In the course of our drive to the "Salmon Ponds" I had pointed out to me the house of Smith O'Brien, who resided in this part of Tasmania. It is a neat small two-storeyed white house on the left bank of the Derwent, with a flower and fruit garden attached, and surrounded by hop grounds.

The Ponds are twenty-six miles from Hobart Town, and are arranged in accordance with designs brought from the Stormontfield establishment on the Tay. Water is led from the River Plenty by a race to a small plot of grass-land above flood-mark. Sluices are placed on this race to regulate the supply of water. From the main race a smaller one leads directly into the clearing pond, which is circular, about 5 feet deep, and 40 feet in diameter. Thence the water is led by two covered wooden troughs into an open wooden trough at right angles with the covered troughs. From the open wooden trough small sluices let off the water in any quantity desired directly into the gravel hatching beds. These consist of wooden boxes about five feet long by two feet wide. There are twelve of them, arranged in four rows. The water passes with a slight fall into the upper end of the first box in each row, over the lower end of that box to the upper end of the second box, and so on to the lowest, where the water from each row passes over a series of shallow gravelly ponds to a pond about 120 yards long and 40 feet wide, varying in depth from 2 to 9 feet. All the surplus water from the clearing pond also finds its way into this larger pond by a covered drain, ensuring a permanent supply of clear cool water. All the entrances to and exits from the pond and hatching beds are carefully guarded by covering them with perforated zinc. The hatching house was well arranged for the purpose. There are sluices communicating with the pond, so that when the fish have attained sufficient maturity they can be allowed to pass into the Derwent river, or be conveyed elsewhere.

I returned by coach to Hobart Town. The road was good, and the country we passed was picturesque and beautiful, but the sweetbrier appeared to be in a fair way of strangling all the indigenous vegetation. We crossed the Derwent at Bridgewater by a very fine viaduct constructed by Government.

The following day, at 8 a.m., I left with Mr. Abbott, the director of the Botanic Gardens, to ascend Mount Wellington. At one time the land on each side of the road we traversed was a forest, principally of the blue gum (*Eucalyptus globulus*), of enormous size, but the establishment of a saw-mill and the great demand for the valuable timber soon greatly reduced the number of trees. The timber is durable, and excellent for ship-building and other purposes for which a hard and durable wood is required. The bark can be used for tanning, and the leaves (as in most of the eucalypti) yield an excellent camphorate oil. We observed on each side of the Huon Road the blue gum-trees, growing among other forest trees that had escaped the saw; they were still numerous, but did not average more than from 40 to 50 feet high, with small diameter, and in Tasmanian estimation would only be regarded as saplings. There were not many flowers to be seen, except a species of ozothamnus, and also a senecio (*Senecio Australis*), bearing a profusion of yellow flowers, which served to enliven the roadside. As we advanced, the blue gum-trees were of much larger size, probably being from 80 to 100 feet high, some of them very straight and devoid of branches until near the top.

On arriving at the Fern-tree Valley Inn, five miles from Hobart Town, we put up the horse and phaeton, and then commenced our excursion on foot over a delightful but narrow road, abounding on each side with the most luxuriant vegetation.

To the lover of trees and plants in their wild state, this scene would afford the greatest delight. Not less elegant and beautiful, amidst the towering gum-

trees, was the graceful and elegant tree-fern (*Dicksonia antartica*), growing to the height of from 8 to 10 feet. It might sometimes be seen as high as from 25 to 30 feet, crowned by magnificent wide-spreading, umbrella-like fronds, of a dark but vivid green. The circumference of the trunk was three or four, and, in some instances, even six feet. We observed also the dog or pink wood (*Bedfordia salicina*), growing luxuriantly and in great abundance, as also the musk-tree (*Eurybia argophylla*) and two other species (*Eurybia pinifolia* and *E. ledifolia*) of the same genus. The sassafras-tree (*Atherosperma moschata*) was also very plentiful, and readily distinguished by its bright-green foliage; it is usually seen growing in moist, shady situations. The trees appear to have a conical growth, and the flowers are white and fragrant. It attains the height of 70 to 100 feet, and a diameter of 3 feet. The wood is hard and white, with occasional light-brown irregular streaks, but has no fragrance after the bark is removed—unlike the true sassafras-tree of North America (*Laurus sassafras*, Linn.), the shavings of which are used for making sassafras tea. The timber is used for flooring, and for various other purposes. The bark is very aromatic, and a decoction is used medicinally; both in a recent and dried state it is often used as a substitute for tea, and has a very agreeable flavour, with the addition of plenty of milk. The boxwood (*Bursaria spinosa*), with white flowers, is a graceful and pretty flowering shrub. During our progress, we continued to see numerous magnificent blue gum-trees, but many, although attaining a great elevation, were not of correspondingly large diameter. We came upon some noble trees of the Tasmanian beech, or myrtle (*Fagus Cunninghamii*), conspicuous from their small and dark foliage, growing to the height of from 70 to 80 feet, with a circumference of 12 feet.

At length we reached a spot which has become a favourite resort for picnics, well chosen for those who are desirous of avoiding the fatiguing ascent of the mountain, but wish to enjoy the beautiful and rich vegetation near the base. It is a delightful excursion to drive from the town to the Fern Gully Inn, and then to ramble over the beautiful walks amidst the dense woods.

We continued our course upward, enjoying the magnificent trees and plants around us, and when an opportunity offered, devoted some time to the actual measurement of some of the huge prostrate blue gum-trees that came in our way, having been felled, and probably left on the ground to season previous to being removed. One we measured without branches was 180 feet in length and 35 feet in circumference at the base of the trunk, which had been left to the height of 10 feet remaining in the ground. Some of the trees were of large circumference, from the base extending up to 12 or 14 feet, and then gradually diminishing, growing quite straight to the height of from 80 to 120 feet. I consider that a tree may occasionally be found 300 feet high, but beyond that I regard it as very exceptionable; for a tree may increase in diameter to a very great extent, but on attaining even a moderate elevation the top branches are generally broken off. At places about the lower part of the mountain, where the timber had been cleared, the soil appeared to be very good, and well suited for cultivation.

Of the eucalypti there are several species. The young foliage is generally very handsome, being of a red and a very light shining green colour. The trunks of the gum-trees vary. Some have a persistent bark, and are then of a dark or black colour; others shed their bark, and then display a silvery tinge; others, again, assume a reddish or reddish-yellow tint. The foliage varies very much in the young and in the older trees. This is well exemplified in *Eucalyptus coccifera*, or red fruit gum, *E. globulus*, or blue gum, and many others. The foliage also varies in size and colour, from a light to a deep olive green. It is most agreeable early in the morning when the dew is on the ground, or after rain, to walk under the gum-trees and inhale the agreeable camphorated exhalation emanating from them, and which no doubt has given to these trees the property of conducing to a healthy state of the atmosphere where they are planted.

I observed that many of the blue gum-trees had enormous knots growing out of the trunk. We measured another prostrate tree 160 feet long, with a diameter of 3 feet. We now left the pathway, which was in reality the covered watercourse which conveyed the water from the springs to the town reservoir. We then turned into the dense forest and bush by a narrow, rugged, stony pathway, overrun with ferns and other plants, retaining a great quantity of moisture, and although it is called a pathway, it would be difficult to find it without a guide. In advancing we met with a tree which appeared to have been felled for some length of time, and measured 225 feet in length without branches. We afterwards came upon several small trees of that beautiful evergreen the Tasmanian laurel (*Anopterus glandulosa*). It is a laurel-like shrub, of great beauty, with clusters of pink and white flowers, and sometimes grows to a tree 20 or 30 feet high. We observed, too, a blue gum-tree with enormous knots around the trunk, at about 10 feet from the base. The circumference at the base was 53 feet, up to the knots and including them would be 66 feet; the height of this tree was 260 feet, but the top branches were broken off, which we often saw in trees attaining a great elevation.

On the rugged and moist pathways I noticed that the trunk of the Dicksonia fern-tree was often cut into blocks, and the pieces placed as steps at rugged and difficult places; the stems being rough from the rigid scales covering them, there was no fear, however wet, of slipping. These trunks are always found to make a good road over wet ground or steep and dangerous gullies.

As we advanced we came upon many Tasmanian pepper-trees (*Tasmannia aromatica*). They were handsome evergreen trees, with dense leaves of a shining bright green; both the foliage and bark were aromatic, the latter of a red colour, imparting a pretty appearance to the tree; the branches are wharted, the trees were covered with small black fruits very pungent to the taste, which would be an excellent substitute for pepper. This tree is said to resemble the Winter's bark (*Drimys Winteri*) of the Straits of Magellan, to which genus it is closely allied, and no doubt it possesses similar tonic, aromatic, and stimulating properties. It attains the height of ten or twelve feet. In many of the moist localities we observed patches of fungi of the genera *Polyporus*, *Xerotus*, and *Cortinarius*, of beautiful red, pink, and purple colours. Among plants of the Epacris family, the most attractive was the *Richea dracophyllum*, which was seen about 6 or 8 feet

high, although it often attains the height of 10 or 12 feet. It has broad grassy foliage, the flowers are white, with pink floral bracts; but at this season of the year they were in seed. I also observed that very pretty plant, about 8 or 10 inches high, the *Bellendena montana*, a genus of *Proteacerous* plants, of comparatively small growth, with wedge-shaped foliage, and spikes of scarlet seed pods, the flowers being apetalous. It is only found on Mount Wellington. *Cyathodes glauca* was abundant, displaying its large pink berries, and another species, *Cyathodes abietina*, with large crimson drupes; in some places these and other small branching woody shrubs formed impervious thickets. As we ascended higher we came upon the Tasmanian species of Waratah, or tulip-tree (*Telopea truncata*); the flowers are of a very beautiful scarlet colour, containing honey, but do not equal in size or beauty the Waratah (*Telopea speciossima*) of New South Wales.

The pathways were overgrown by grass, ferns, and other plants. At last we came upon a narrow but good road, with a rivulet of sparkling clear water flowing on one side. This was the way to the "Springs," which we soon reached. The place is a great resort for picnic parties. After lunch we pushed forward up the mountain, and as we advanced more into the middle region, we came upon a number of interesting plants which we had not observed lower down, the names of which are too numerous to be here noted. Presently we reached a large extent of "tumbled basaltic rocks," consisting of huge boulders thrown together in confusion, no doubt by a landslip. These detached rocks have been named the "Ploughed Field," and the long slope of detached masses of various sizes is both fatiguing and difficult to pass. As we approached the top of the mountain the ground was in many places swampy, with numerous pools of clear and delicious water. We had now come upon the Alpine flora of the mountain, and admired the large patches of the handsome Mountain Astelia (*Astelia Alpina*); the foliage springing from the root is silky, of a light green colour, and covered underneath with a white silvery down; the fruit is red and about the size of a pea, and of a sweetish taste. *Richea scoparia*, an Alpine fern, was also seen. An exquisitely beautiful, small, and delicate fern attracted my attention, and was very abundant; it was *Gleichinia dicarpa, var Alpina*. We also collected a species of *Euphrasia*, or Eye Bright, and a pretty *Ozothamnus, O. Hookerii, Septospermum rupestre*, a small and pretty Alpine form, trailing over the rocks; and *Gentidna montana*, with light blue flowers. My attention was directed to extensive green cushion-like masses having a singular appearance. This was a small composite plant, resembling a species of moss. It was *Scleroleima*, or *Abrotanella forsteroides*, a densely tufted plant, so described, peculiar to the mountains of Tasmania. It is closely allied, according to Dr. Hooker, to the *Ceratilla* of Campbell's Island, *Trineuron* of Lord Auckland's group, and *Abrotanella* of Cape Horn and the Falkland Islands. It is a genus that ranges generally over New Zealand and the Antarctic regions. This curious little plant was seen forming immense flat and broad green velvety patches, sometimes extending both in length and breadth to several feet, and bearing small yellowish-white flowers. A similar plant, but differing in its botanical characters—the *Pterygopappus*—is often found mingled with it. All these Alpine plants are covered by snow during the whole of the winter months of the year, extending to October.

Having attained the summit, we paused to enjoy the extensive view. The weather was fine and clear. To the west and south we saw the whole of the south-east portion of Tasmania, with its bays, its inlets, and its islands. Brown's and the Huon rivers were like silver threads in their courses. The Derwent appeared to consist of deep indented bays. The view took in D'Entrecasteaux's Channel, the Iron Pot island and lighthouse (twelve miles from Hobart Town), and the city of Hobart itself, like a mere speck in the landscape.

The geology of the mountain included a formation of sand and limestone near the base, then compact argillaceous rocks, and towards and at the summit basalt.

We prolonged our excursion over rugged rocks to the "Logan Stone," why so called I do not know, for although in form and position it bore some resemblance to a "Logan Stone," it was ascertained to be immovable, and refused to rock, as all genuine Logan stones ought not to do; so we passed on to the pyramidal rocks, and examined their large size and singular form, and then turned back to descend the mountain, taking a somewhat different route.

THE BEGUM'S FORTUNE

BY JULES VERNE.

CHAPTER XVIII.—THE KERNEL OF THE NUT.

THE top of the steel ladder was fixed close to the wall of a vast circular chamber, there being no communication with the exterior. It would have been in complete darkness had it not been for a dazzling white light which streamed through the thick glass of a bull's-eye fixed in the centre of the oak floor. For purity and brilliancy it might be compared to the moon when she is in her full beauty.

Perfect silence reigned within these mute and eyeless walls. The two young men imagined themselves in the ante-chamber of a tomb.

But before bending over the glass, Max hesitated for a moment. He had attained his object! The secret, to penetrate which he had come to Stahlstadt, was about to be revealed to him!

This feeling, however, soon passed off. Together he and Otto knelt beside the disc and looked down into the chamber beneath.

A horrible and unexpected sight met their astonished gaze.

The glass disc, being convex on both sides, formed a lens, which immensely increased in size all objects seen through it.

Here was the secret laboratory of Herr Schultz. The intense glare which shone through the disc, as if from the lantern of a lighthouse, came from a double

electric lamp, still burning in its airless bell, being incessantly fed by a powerful voltaic pile.

In the middle of the room, motionless as marble, and enormously magnified by the refraction of the lens, a human form was seated.

Pieces and splinters of shells were strewn on the ground around this spectre.

There was no doubt about it! It was Herr Schultz himself, recognisable by his horrid grinning mouth and his gleaming teeth; but a gigantic Herr Schultz, suffocated and frozen by the action of a terrible cold caused by the explosion of one of his frightful engines of warfare.

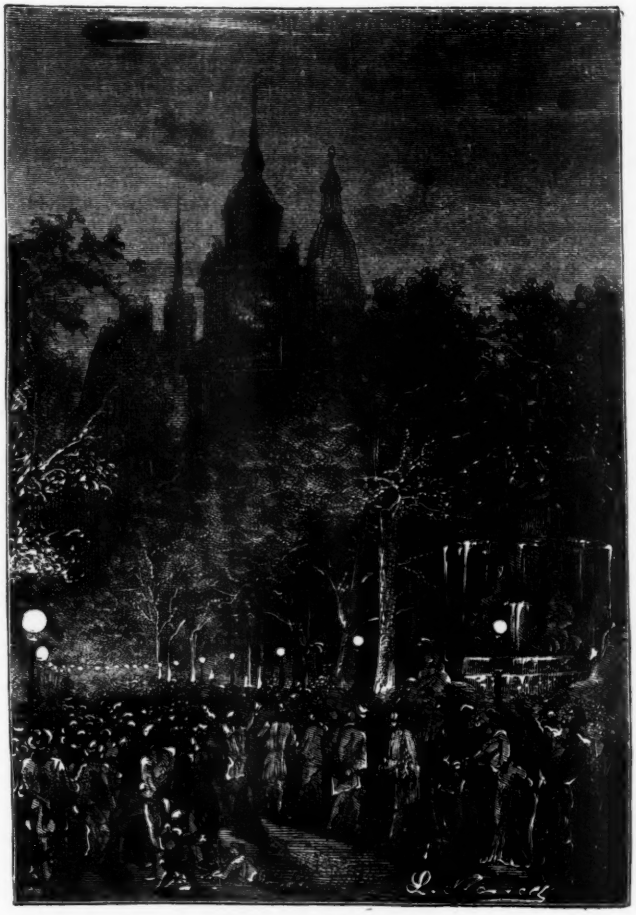
The King of Steel was seated at his table, holding an enormous pen like a lance in his hand, as if he were still writing. Had it not been for the stony glare of his dilated eyeballs, and his set mouth, he would have appeared to be living. Here this awful corpse had been for a month, hidden from all eyes, and now discovered like a mammoth which had been concealed for ages in the glaciers of the Polar regions. Everything around him was frozen, the reagents in their jars, the water in its receivers, and the mercury in its reservoirs!

In spite of the horror of this spectacle, Max's first thought was one of satisfaction that they had been fortunate enough to be able to observe the interior of the laboratory from the outside, for if he and Otto had entered they must infallibly have been struck dead.

Max soon guessed how the fearful accident had occurred, when he marked that the fragments scattered on the ground were small pieces of glass. He knew that the inner case of Herr Schultz's suffocating projectiles contained liquid carbonic acid, and that, to resist the enormous pressure, it was formed of tempered glass, which has ten or twelve times the ordinary strength; the great fault of this newly-invented production, however, is that, by some mysterious action, it often suddenly bursts without any apparent reason. This was evidently what had happened. Perhaps the interior pressure had helped to provoke the explosion of the shell deposited in the laboratory; at any rate, the discharged acid, on returning to a gaseous state, had occasioned a fearful lowering of the surrounding atmosphere, even to a hundred degrees below zero.

The effects had indeed been something awful. Death had surprised Herr Schultz in the attitude he was in at the time of the explosion, and in a moment he was turned into ice.

One circumstance which Max particularly noticed, was that at the time of his death the King of Steel was engaged in writing.



THANKSGIVING FESTIVAL.

What was inscribed on the sheet of paper lying beneath that lifeless hand? It would be interesting to know the last thought and read the last words of such a man.

The difficulty was to procure the paper. The idea of breaking the disc so as to descend into the laboratory could not be entertained for an instant. The gas would have immediately rushed out and suffocated every living being. The risk of bringing sudden death upon themselves could not be run merely for the sake of satisfying their curiosity. Max, therefore, seeing that the writing as well as everything else was so wonderfully magnified and brilliantly illuminated, endeavoured to read it from a distance. Being well acquainted with the handwriting of Herr Schultz, with a little trouble he at last made out the following lines.

According to the usual custom of Herr Schultz, it was rather an order than an instruction.

"Order to B. K. R. Z. to advance the projected expedition against Frankville by a fortnight. As soon as this order is received execute the measures I have devised; they must this time be overwhelming and complete. Do not alter an iota of what I have decided upon. I wish that in a fortnight Frankville should become a city of the dead without a surviving inhabitant. I hope for a modern Pompeii, to be at once a terror and an astonishment to the whole world.

"You will send the bodies of Doctor Sarrasin and Max Bruckmann to me. I wish to have them.

"Schult——."

The signature was unfinished, the final z and the usual flourish being wanting.

Max and Otto gazed mute and motionless at this strange spectacle, feeling as if they were witnessing the invocation of some malignant genius.

But it was time to leave the dismal scene, and the two friends, agitated by conflicting feelings, descended from the room above the laboratory.

There, in that dark tomb, for, when the electric current failed, the lamp would be extinguished, the corpse of the King of Steel would remain alone, dried up like a mummy Pharaoh, whom twenty centuries have not reduced to dust!

An hour later, having unbound Sigimer, who seemed puzzled to know what to do with his liberty, Otto and Max quitted Stahlstadt, and took their way back to Frankville, which they entered the same evening.

Dr. Sarrasin was busy in his study when the return of the two young men was announced to him.

"Tell them to come in!" he exclaimed. "Come in, quickly!"

"Well?" said he, as soon as the friends presented themselves before him.

"Doctor," replied Max, "the news we bring from Stahlstadt will put your mind at rest for a long time. Herr Schultz is no more! Herr Schultz is dead!"

"Dead!" exclaimed Doctor Sarrasin.

The good man remained thoughtful for a few moments, without uttering another word.

"My dear fellow," he said at last, "can you understand that this news, which ought to make me rejoice, since it takes from us the dread of the thing I most execrate, war—and the most unjust, unreasonable war ever heard of!—can you understand how, against all reason, it makes my heart ache! Oh, why should a man of such powerful intelligence have constituted himself our enemy? Why did he not use his rare intellectual qualities for the benefit of his fellow-creatures? How much wisdom has been lost which would have been so valuable had it been associated with us, and used for a common object! All this at once struck me when you said, 'Herr Schultz is dead.' But now tell me all that you know of this unexpected event."

"Herr Schultz," replied Max, "has met his death in the mysterious laboratory which, with such diabolical ingenuity, he had striven to render inaccessible to all others. No one but himself ever knew of its existence, and no one consequently could penetrate into it to bring him help. He has fallen a victim to that marvellous concentration of all his plans in his own hands, on which he had so erroneously relied. By the will of Providence, his desire of being himself the key to all his projects has been turned to his own destruction!"

"It could not have been otherwise!" answered Dr. Sarrasin; "Herr Schultz started with a totally wrong notion. For, indeed, is not the best government the one of which the chief, on his death, can be most easily replaced, and which will continue to work smoothly, just because all the machinery is open and visible?"

"You will see, doctor," said Max, "how all that has happened in Stahlstadt bears out what you have said. We found Herr Schultz seated before his desk, that central point whence came all those orders so implicitly obeyed by the Steel City, and which no one ever dreamt of disputing. Death had left him every appearance of life, so that for a moment I thought the spectre would have spoken to us! But the inventor has fallen by his own invention! He was killed by one of the shells with which he hoped to destroy our town just as he was signing his name to the order for our extermination! Listen!"

And Max read aloud a copy he had taken of the horrible words written by Herr Schultz.

Then he added:

"The greatest proof of the death of Herr Schultz, even if we had not seen him, is that everything around him has ceased to live. There is nothing breathing in Stahlstadt. As in the palace of the Sleeping Beauty, slumber has suspended all life, and arrested every movement. The effects of the master's death has extended, not only to the servants, but also to the machinery."

"Yes," returned Doctor Sarrasin; "we see in this the justice of God! From indulging in his hatred against us, and urging on his attack with such boundless rancour, Herr Schultz has perished."

"That is true," answered Max; "but now, doctor, let us leave the past and think only of the present. Although the death of Herr Schultz gives peace to us, it causes the ruin of the wonderful business he created. Blinded by his success and his hatred of France and you, he had supplied large numbers of cannon and weapons to any one who might be our enemy, without getting sufficient guarantees. In spite of this, and although the payment of all his debts would take a long time, I believe that a strong hand could set Stahlstadt on its legs again, and turn to a good purpose all that has been hitherto used for an evil one. Herr Schultz has only one likely heir, doctor, and that is you. His work must not be allowed to fall to the ground entirely. It is too much the belief of this world that the only profit to be drawn from a rival force is in its total annihilation. This is not really the case, and I hope you will agree with me that, on the contrary, it is our duty to endeavour to save from this immense wreck all that can be used for the benefit of humanity. Now I am ready to devote myself entirely to this task."

"Max is right," said Otto, grasping his friend's hand, "and here am I ready, also, to work under his orders, if my father will give his consent."

"I certainly approve, my dear lads," replied Doctor Sarrasin. "Yes, Max, there will be no want of capital, and, thanks to you, I shall hope to have in the resuscitated Stahlstadt such an arsenal that no one in the world will henceforth ever dream of attacking us. And as we shall then be the strongest, we must at the same time endeavour to be also the most just; we must spread the benefits of peace and justice all around. Ah, Max! what enchanting dreams! And when I feel that, with you to help me, I can at least accomplish a part, I ask myself why—yes, why have I not two sons? Why are you not the brother of Otto? We three working together, it seems as if nothing could be impossible!"

CHAPTER XIX.—A FAMILY AFFAIR.

Perhaps in the course of this remarkable narrative we have not been sufficiently communicative about the personal history of those who have played such prominent parts in it. We may now, therefore, be allowed to stop in order to give a few details regarding them.

It must be acknowledged that the good doctor was not so totally taken up with the idea of collective humanity that all individuals were merged in it. He

had, therefore, been struck by the sudden pallor which overspread the countenance of Max as he uttered his last words. He sought to read in the young man's eyes the cause of this sudden emotion. The silence of the older man seemed to question the engineer, as if he expected him to speak, but Max, mastering himself with a strong effort, immediately resumed his composure. His complexion reassumed its natural tint, and his attitude was merely that of a man who expects the continuance of an interesting conversation.

Doctor Sarrasin, slightly provoked at this evidently assumed calmness, approached his young friend, and with a familiar gesture laid his hand upon his wrist, just as he would on that of a patient whose pulse he wished quietly and unobtrusively to feel.

Max allowed this naturally without apparently noticing the doctor's intentions, and as he did not open his lips,—

"My dear Max," observed the old man, "we will put off our conversation about the future destiny of Stahlstadt to some other time. For although we are vowed to the work of labouring to ameliorate the condition of mankind, it is not forbidden us also to occupy ourselves with the fate of those we love, of those who are nearest to us. Well, I think the time has come to tell you what a young lady, whose name I will mention presently, replied not long ago to her father and mother, when for the twentieth time that year they had been asked for her in marriage.

"The proposals were, for the most part, such that even the most fastidious could have had no reason for refusing them, and yet this young woman always said 'No!'"

At this point Max drew his hand away with a sudden movement from the doctor's grasp, and the latter, as if he was satisfied on the subject of his patient's health, and had not noticed that both his arm and his confidence had been withdrawn, quietly continued his story.

"'Well, now,' said the mother to the young lady of whom I speak, 'just tell me the reason of these continued refusals. Education, fortune, position, good looks, all are there. Why this decided No, so resolute and prompt, to requests which you don't even take the trouble to consider a little? You are not usually so very peremptory!'

"At this the girl determined to speak clearly and frankly, and thereupon replied:

"'I say No with as much sincerity as I would say Yes, dear mother, if the Yes came really from my heart. I agree with you that several of the matches you have proposed to me are perfectly unexceptionable. But, besides my belief that most of those addresses were paid more to what is considered the best—that is, the richest—match in the town, than to me myself, and that that idea does not incline me to say Yes, I will venture to tell you, since you wish it, that none of these proposals is the one I hope for, the one that I still expect, and which, unfortunately, I may have to wait a long time for, if it ever comes at all!'"

"'What, my dear,' said the mother, in surprise, 'you—'

"She did not end that sentence for want of knowing how to finish it, and in perplexity turned to her husband with looks which plainly begged for help and advice.

"However, as he did not intend to interfere in the discussion between the mother and daughter until a little more light had been thrown on the subject, he put on an obtuse air, and counterfeited so well that the poor girl, blushing with embarrassment, and perhaps with a little anger, suddenly determined to make a clean breast of it.

"'I said, dear mother,' she continued, 'that the proposal I hoped for might be a very long time in coming, and might possibly never come at all. I add that this delay, although so indefinite, will neither hurt nor astonish me. I have the misfortune to be very rich; he whose proposal I hope for is very poor, therefore he will not make it, and he is right; it is for him to wait—'

"'Why not for us to speak?' said the mother, wishing perhaps to prevent her daughter from uttering words she feared to hear.

"Then the husband interposed.

"'My dear,' he said, affectionately, taking his wife's hands in his, 'it is not with impunity that a mother, so looked up to by her daughter as you are, can, ever since she was born, constantly before her, sing the praises of a fine and handsome fellow who is almost one of the family, that she remarks to every one on the solidity of his character, that she glories in what her husband says, when he has occasion in his turn to boast of his remarkable intelligence, or speaks feelingly of the thousand proofs of devotion he has received from him! If the girl who saw this young man, distinguished both by her father and her mother, had not admired him herself, she would have failed in her duty!'

"'Oh, father!' cried the girl, throwing herself into her mother's arms to hide her confusion, 'if you guessed, why did you make me speak?'

"'Why?' returned the father, 'why, but to have the joy of hearing you, my darling, that I might be still more certain that I was not mistaken, to be able at last to tell you that both your mother and I approve your choice, that your heart has been given where we wished, and to spare a poor and proud man from making a proposal at which he feels a reluctant delicacy, I will do it myself; yes, I will do it, because I have read his heart as I have read yours! Calm yourself, then! On the first favourable opportunity I will ask Max if, by any possibility, he would care to become my son-in-law!'"

Taken unawares by this sudden peroration, Max had started to his feet as if moved by a spring. Otto silently grasped his hand, while Dr. Sarrasin held out his arms. The young Alsatian was pale as death. But does not happiness sometimes take this appearance when it enters without warning into a strong heart!

CHAPTER XX.—CONCLUSION.

FRANKVILLE, released from all anxiety, in peace with its neighbours, well governed, happy, thanks to the good behaviour of its inhabitants, is highly prosperous. Its success is so justly merited, that it causes no envy, and its strength enforces the respect even of the most warlike.

Under the iron rule of Herr Schultz, the City of Steel was a terrible manufactory, a regular engine of destruction; but, thanks to Max Bruckmann, its liquidation was effected without loss to any one, and Stahlstadt became a centre of production, unsurpassed by any other industry.

A year ago Max became the happy husband of Jeannette, and the birth of a child has recently added to their felicity.

As to Otto, he worked gallantly under his brother-in-law's directions, and seconded all his efforts. His sister is hoping soon to see him married to a friend of hers, whose good sense will preserve her husband from any relapse.

The wishes of the doctor and his wife are thus fulfilled, and to put it in a few words, they are at the zenith of happiness and even of glory,—if glory entered into their honest ambitions. We may now be assured that the future belongs to the efforts of Doctor Sarrasin and Max Bruckmann, and that the example of Frankville and Stahlstadt's model manufactory and city will not be lost upon future generations.

Varieties.

Red Snow Plant.—The red snow plant, to which is mainly due the beautiful phenomenon by which tracts of Arctic and Alpine snow become tinged of a delicate crimson, is a microscopic organism whose whole body consists of a simple spherical cell. In the protoplasm of this little cell must reside all the essential attributes of life; it must grow by the reception of nutriment; it must repeat by multiplication that form which it has itself inherited from its parent; it must be able to respond to the stimulus of the physical conditions by which it is surrounded. And there it is, with its structure almost on the bounds of extremest simplification, taking its allotted part in the economy of nature, combining into living matter the lifeless elements which lie around it, redeeming from sterility the regions of never-thawing ice, and peopling with its countless millions the wastes of the snow land.—*Professor Allman.*

Life in the Blood.—In the most complex animals, even in man himself, the component cells, notwithstanding their frequent modification and the usual intimacy of their union, are far from losing their individuality. Examine under the microscope a drop of blood freshly taken from the human subject, or from any of the higher animals. It is seen to be composed of a multitude of red corpuscles, swimming in a nearly colourless liquid, and along with these, but in much smaller numbers, somewhat larger colourless corpuscles. The red corpuscles are modified cells, while the colourless corpuscles are cells still retaining their typical form and properties. These last are little masses of protoplasm, each enveloping a central nucleus. Watch them. They will be seen to change their shape; they will project and withdraw pseudopodia, and creep about like an Amœba. But, more than this, like an Amœba, they will take in solid matter as nutriment. They may be fed with coloured food, which will then be seen to have accumulated in the interior of their soft transparent protoplasm; and in some cases the colourless blood corpuscles have actually been seen to devour their more diminutive companions, the red ones.—*Professor Allman.*

Where is the Imprint?—Many printers seem to be unaware of the fact that they must keep a copy of every paper they print, with the name and abode of their employer written thereon. By the Act requiring this (George III 39, chap. 79) the penalty is £20 for neglect or refusing to produce the copy within six months after the order is executed.—*The Printer.*

The late Mr. Keith Johnston.—Geographical science has sustained a loss in the death of Mr. Alexander Keith Johnston, who died in June last, on the march to Berobero, Africa, aged thirty-four. He was the son of the late Dr. Alexander Keith Johnston (see "Leisure Hour," 1872, p. 647), of the firm of W. and A. K. Johnston, engravers and geographical publishers, Edinburgh, and inherited his father's taste for geographical studies. For some time he was a pupil of the late celebrated Dr. A. Petermann, of Gotha. When the firm determined upon setting up a branch establishment in London, the deceased and his cousin Archibald, son of Mr. Thomas B. Johnston, the present senior partner, came southward to carry on the business, but after some years Mr. A. Keith retired, his long-felt desire to accomplish active work in the field, as a traveller and explorer, having developed into a passion. He subsequently for a brief period entered the service of the Royal Geographical Society. In 1874 he went out to Paraguay upon an exploring expedition, of which he gave an account to the Geographical Section of the British Association. Besides frequent contributions to the "Geographical Magazine," he wrote the article upon "Africa," for the new edition of Black's "Encyclopædia Britannica," and edited, with considerable additions, the volume devoted to "Africa," based upon Hellwald's German work, in Stanford's "Compendium of Geography and Travel." He also designed and executed maps of Africa and part of South America, and edited several of the minor atlases published by Messrs. Johnston. The expedition of which he was appointed leader, and which left England towards the end of last year, was intended to complete the exploring work of Mr. E. D. Young and of Captain Frederick Elton, in finding the best routes of travel between the Indian Ocean and the Nyassa, examining the mountainous country north-east of that lake, and afterwards proceeding north-west to Lake Tanganyika. Mr. Johnston was accompanied by Mr. Thomson, a young geologist. They arrived at Zanzibar in January last, and there met Dr. Kirk, the British consul, and Mr. H. M. Stanley, who gave them a friendly welcome to the field of African exploration. In April, having completed his preparations at Zanzibar, Mr. Johnston took his party, accompanied by Dr. Kirk, over to the mainland at Dar-es-Salaam, an Arab port belonging to Zanzibar, on the African coast, about 280 miles north-east of the upper end of Lake Nyassa. He wrote from that place on May 17th, stating his intention of proceeding by a different route from that by Kola, on the Mackinnon-Buxton road, as he was apprehensive of a scarcity of food in the Uzaramo country. He accordingly took his course southward to Berobero, a populous village in Khutu, 130 or 140 miles from Dar-es-Salaam, and not far from the Ruaba, one of the two rivers which unite to form the Rufiji. On the march to Berobero he was attacked by dysentery, and there he died, on June 28th, to the sorrow of many personal friends and to the loss of geographical science, which might have profited much by his services in future years. He left a work entitled "Physical, Historical, Political, and Descriptive Geography," which is to be published by Mr. Stanford.

In a Derbyshire Lead Mine.—The "waggon way" we had to traverse was about four feet wide, and from five to seven feet high. The waggons were five feet long, one foot wide at the bottom, and two feet wide at the top. Two of our party doubled themselves up inside one of these waggons, and, candle in hand, were pushed along by a strong athletic man, who had to walk in six inches of water. Our other friends followed in another carriage. All appeared mysterious and strange to my inexperienced eyes and ears. The man who propelled us along could be heard splashing in the water behind. He did all he could to make us cheerful under present circumstances. "Kepe yer yeds dahn, it's a bad spot 'ere; and kepe yer elbews it waggon or yole nock t'cap off 'em!" he exclaimed. We at once ducked down still lower in the waggon, until our guide informed us that we might again lift our "yeds" up. We now hear a mighty rushing of water falling from a high altitude into the very level we are on. This subterranean waterfall, which comes in from the roof above us, is boarded so as to fall down within six inches of the side of our waggon. This is the water that is running on the bottom of the level we have been travelling on; it is making its way to a level near the shaft bottom, which takes it away from the mine. The roar gradually lessens as we pursue our way to the workings, and we begin to think the worst is over. The waggons have now arrived at the ore works. We are invited to alight, which we do with the utmost alacrity, seeing that we have been in one inglorious posture nearly half an hour. The captain here informed us we had a sump to climb to reach the ore works. This sump resembled an old-fashioned chimney, with pieces of wood called stemples placed so that we could ascend to the floor above, and so proceed to the farfield, where the men were blasting. When we had scrambled up the sump we soon began to smell gunpowder. One peculiarity struck me, the "white fungus," which abounds in the mine. Arrived at the ore works, we had more scrambling to do, sometimes on all fours, sometimes wriggling like eels on our bellies, and turning on our backs and propelling ourselves on our heels. By dint of these extraordinary exertions we were rewarded by seeing the whole of the works. The reason we had to assume such postures to get to the ore ground was a very large accumulation of boose. Owing to the rainy season the men had been unable to waggon it away, as the lower ground was flooded. Consequently, the difficulty was much greater than usual. The "ore-getters" appear a strong, hardy, contented class of men, and respectful to their employers. In answer to a question as to the uncertainty of finding the mineral, the captain said the saying was, "Where it is, there it is." The roof of the mine glittered like a myriad of diamonds. The upper places, where it was dry, the "helland," or "small particles of ore," by the reflection of our lights, looked like precious gems. The ore-spangled spar was beautiful.—*Sheffield Telegraph.*